

**STATEMENT OF BASIS  
Air Pollution Control  
Title V Permit to Operate  
Permit No. V-ML-2709500005-2009-01**

The purpose of this document is to set forth the legal and factual basis for permit conditions, including reference to applicable statutory or regulatory provisions. This document also gives the derivation of conditions as required by 40 C.F.R. § 71.11(b).

**1.0 GENERAL INFORMATION**

**(A) Applicant and Stationary Source Information**

Owner:	Mille Lacs Band Corporate Commission d/b/a Grand Casino Mille Lacs 777 Grand Ave. Highway 169 Onamia, Mille Lacs County, MN 56359
Facility:	Grand Casino Mille Lacs 777 Grand Ave. Highway 169 Onamia, Mille Lacs County, MN 56359 Mille Lacs Band of Ojibwe Indian Reservation
SIC Code:	7011: Hotels and motels, 4911: Electricity generation
Responsible Official:	Lon Burr Vice President of Facilities 777 Grand Ave. Highway 169 Onamia, Mille Lacs County, MN 56359 Phone: (320) 532-8220, Fax: (320) 532-8392
Facility Contact:	Raymond Kegg, Director of Maintenance, Grand Casino Mille Lacs Phone: (320) 532-8307, Fax: (320) 532-8510
Tribal Environmental Contact:	Charles Lippert, Air Quality Technician 43408 Oodena Dr., Onamia, MN 56349 Phone:(320) 532-4704, Fax: (320) 532-7514

## (B) Facility Description

Three diesel-fired generator sets were installed in 2001 – 2004 and are used for backup, emergency power, and peak shaving. A fourth generator set was installed in 2005 and reportedly has only been used for emergency backup. The first three generator sets were permitted in a 2005 Prevention of Deterioration (PSD) Air Quality Construction Permit (No. PSD-ML-R50007-05-01) issued by the United States Environmental Protection Agency (EPA) on October 13, 2005. The generator sets are located approximately 13.5 kilometers (km) north-northwest of the town of Onamia, Minnesota on land that is held in trust for the Mille Lacs Band of Ojibwe. All electricity generated is used onsite.

## (C) Area Classification

The facility is located in Mille Lacs county which is in attainment with National Ambient Air Quality Standards for all criteria pollutants. Grand Casino Mille Lacs is located on land that is held in trust for the Mille Lacs Band of Ojibwe Indians, and which is located within the boundaries of the Mille Lacs Indian Reservation. The EPA is responsible for issuing and enforcing any air quality permits for this source until such time as the Tribe has EPA approval to do so. There are no PSD Class I areas within 100 kilometers of the Grand Casino Mille Lacs site.

## (D) Enforcement Issues

Region 5 is not aware of any pending enforcement activity for this facility.

## 2.0 PROCESS DESCRIPTION

### (A) Summary

Two of the four generator sets have Caterpillar Model 3516B engines each driving a 2,000 kW generator to produce electricity. The third generator set has a Caterpillar Model 3512B engine driving a 1,400 kW generator, while the fourth generator set has a Caterpillar Model 3512 DITA engine driving a 1,250 generator. Each generator set burns diesel fuel with a maximum sulfur content of 0.05%.

ID	Description	Manufacturer/Model	Serial No.	Output and horsepower rating	Date Installed
EU001	Generator set, Main Casino	Caterpillar/3516B	KFDN00628	2,000 kW, 2885	2001
EU002	Generator set, Event Center	Caterpillar/3516B	CFDN1516	2,000 kW, 2885	2004
EU003	Generator set, Hotel	Caterpillar/3512B	CMC00369	1,400 kW, 2059 bhp	2001
EU004	Generator set, Chiller	Caterpillar/3512 DITA	HCMJ01609	1,2500 kW, 1818 bhp	2005

### (B) Insignificant Activities

The applicant has claimed the following activities to be insignificant under 40.C.F.R. § 71.5(c) (11) (ii) (A):

Qty	Activity
1	Laundry Heater, rated heat input 0.85 MMBtu/hr
1	Laundry Dryer, rated heat input 0.3 MMBtu/hr
4	Laundry Dryers, rated heat input 0.683 MMBtu/hr each
1	Spa Heater, rated heat input 0.40 MMBtu/hr
1	Pool Heater, rated heat input 0.40 MMBtu/hr
1	Laundry Boiler, rated heat input 1.7 MMBtu/hr
1	Laundry Water Heater, rated heat input 0.04 MMBtu/hr
1	EC Heat, water heater rated heat input 2.5 MMBtu/hr
2	EC Domestic water heaters rated heat input 0.99 MMBtu/hr each
2	Htl Ht, water heaters, rated heat input 0.986 MMBtu/hr each
5	Htl Dom, water heaters, rated heat input 1.5 MMBtu/hr each
3	Htl WH, water heaters, rated heat input 0.5 MMBtu/hr each
3	Cass Blr. Boilers, rated heat input 2.0 MMBtu/hr each
1	OT Blr, boiler, rated heat input 4.715 MMBtu/hr

(C) Projected Emissions

**Projected Emissions based upon 300 hours of operation per year<sup>a</sup>**

Emission Unit	NOx (tpy)	CO (tpy)	SO2 (tpy)	PM (tpy)	PM10 (tpy)	VOC (tpy)	HAPs (tpy)
EU001	10.22	0.78	0.15	0.10	0.08	0.13	0.0041
EU002	10.22	0.78	0.15	0.10	0.08	0.13	0.0041
EU003	7.57	1.67	0.11	0.10	0.08	0.23	0.0031
EU004	7.97	0.80	0.15	0.11	0.09	0.15	0.0034
<b>Total</b>	<b>35.98</b>	<b>4.03</b>	<b>0.56</b>	<b>0.41</b>	<b>0.33</b>	<b>0.64</b>	<b>0.0065</b>

(a) Emission estimates above are based on 300 hours of operation per year in accordance to Permit Condition 2.B.1.

The source calculated PTE of PM-10 based upon the ratio of PM-10 to total particulate matter. See Table 3.4-2 of AP-42, 5<sup>th</sup> Edition, for Large Uncontrolled Stationary Diesel Engines for the ratio. Equation for PM-10 PTE: (0.0573 lb of PM-10/MMBtu) / (0.0697 lb of PM/MMBtu) \* (0.64 lb of Total PM/hr).

The source based the sulfur dioxide PTE on the rated fuel flow rates of each engine and a sulfur content of 0.05% by weight. Equation for sulfur dioxide PTE for EU001: 139.7 gal/hr x 7 lb/gal x 0.05/100 x 1 lbmol S/32 lb S x 1 lbmol SO2/lb mol S x 64 lb SO2/lbmol SO2 = 0.978 lb/hr of SO2.

The emission rates for NOx, VOC, CO, and PM are from stack test results.

The source calculated emission rates for Hazardous Air Pollutants (HAPs) using emission factors from tables 3.4-3 and 3.4-4 and AP-42, 5<sup>th</sup> Edition, for Large Uncontrolled Stationary Diesel Engines.

#### (D) PTE History

As stated in section 1(B), above, the 2005 PSD permit for the original three generator sets contains a federally enforceable operating restriction of 300 hours per year (per generator set) and NO<sub>x</sub> emission rates of 10.22 tpy, 10.22 tpy, and 7.57 tpy for units EU001, EU002, and EU003, respectively. The construction of the fourth generator set did not trigger PSD for two reasons. First, the 2005 PSD permit established a facility-wide PTE for all regulated pollutants, before the fourth generator set was installed, of less than 250 tpy (i.e., not a major source), so that the addition of the fourth generator does not constitute a modification to a major stationary source. In addition, the PTE of the fourth generator is 209 tpy, which is also below the 250-ton PSD threshold for a major source. The fourth generator set is now being incorporated into this Part 71 operating permit.

In the Part 71 permit application, Grand Casino Mille Lacs requested that EPA incorporate the first three generator sets (EU001 – EU003) into this permit, as well as the fourth generator (EU004) as a peaking generator set. EU004 is to only be used as an emergency backup generator set until this Part 71 operating permit is issued. EU001 – EU003 each have an annual operating restriction of 300 hours per year. EU004 does not have any legal restriction on operations. Its maximum, unrestricted emissions is 209 tpy of NO<sub>x</sub>.

### 3.0 Applicable Requirements

#### (A) PSD Permit

The EPA issued the Facility a PSD Permit (No. PSD-ML-R50007-05-01) on October 13, 2005. In accordance with 40 C.F.R. § 71.6(a) (1), the applicable PSD permit terms were included in this permit with the exception of the Notification of Construction and Startup requirements. EPA has not incorporated these requirements into this Title V permit because, as requirements that applied only at the time of construction and initial startup, they are obsolete.

#### (B) Restrictions on Potential to Emit

This source is subject to the requirements of the Title V permitting program according to 40 C.F.R. § 71.3(a) (1) and the definition of “major source” in 40 C.F.R. § 71.2: “...A major stationary source of air pollutants or any group of stationary sources as defined in section 302 of the Act, that directly emits, or has the potential to emit, 100 tpy or more of any air pollutant...”

Potential to emit is defined in 40 C.F.R. § 52.21 as the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation, or the effect it would have on emissions, is federally enforceable. Although Grand Casino Mille Lacs is subject to the requirements of the Title V permitting program based on its potential to emit, it has relatively low actual emissions. Grand Casino Mille Lacs has requested that limits on its potential to emit for generator

sets EU001 – EU003 from the 2005 PSD permit be carried over into its Title V permit to avoid certain future regulatory requirements which could apply only to major sources.

### (C) Non-Applicable Requirement Review

The following discussions address applicable requirements, and requirements that may appear to be applicable but are not.

#### 1. New Source Performance Standards (NSPS)

40 C.F.R. Part 60, Subpart A: General Provisions. This Subpart applies to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication of any standard in part 60. The general provisions under Subpart A apply to sources that are subject to the specific subparts of part 60.

40 C.F.R. Part 60, Subpart A does not apply to the Grand Casino Mille Lacs facility because no specific Subparts of Part 60 apply to the four generator sets at the facility.

40 C.F.R. Part 60, Subpart JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. This Subpart establishes emission standards and compliance requirements for the control of emissions from stationary spark ignition (SI) internal combustion engines (ICE) that commenced construction, modification or reconstruction after June 12, 2006, where the SI ICE are manufactured on or after specified manufacture trigger dates. The manufacture trigger dates are based on the engine type, fuel used, and maximum engine horsepower.

40 C.F.R. Part 60, Subpart JJJJ does not apply to the Grand Casino Mille Lacs facility because the four generator sets were constructed before June 12, 2006.

40 C.F.R. Part 60, Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. This Subpart establishes emission standards and compliance requirements for the control of emissions from stationary compression ignition internal combustion engines (CI ICE) that commenced construction, modification or reconstruction after July 11, 2005.

40 C.F.R. Part 60, Subpart IIII does not apply to the Grand Casino Mille Lacs facility because the four generator sets were constructed before July 11, 2005.

#### 2. National Emissions Standards for Hazardous Air Pollutants (NESHAP)

40 C.F.R. Part 63, Subpart A: General Provisions. This Subpart contains national emissions standards for hazardous air pollutants (HAP) that regulate specific categories of sources that emit one or more HAP regulated pollutants under the Clean Air Act. The general provisions under Subpart A apply to sources that are subject to the specific Subparts of Part 63.

The Grand Casino Mille Lacs facility is not subject to any specific Subparts of Part 63; therefore the General Provisions of Part 63 do not apply.

40 C.F.R. Part 63, Subpart ZZZZ: National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. This rule establishes national emission limitations and operating limitations for HAPs emitted from stationary reciprocating internal combustion engines (RICE). The MACT at Subpart ZZZZ applies to sources with PTE of 25 tpy or more for the aggregate of HAP emissions or 10 tpy or more for any single HAP.

#### Area (minor) HAP Sources.

The standard now has specific requirements for new and reconstructed stationary RICE located at minor sources of HAPs, for engines with horsepower ratings less than, equal to, or greater than 500 hp. A stationary RICE is existing at an area source of HAP emissions if construction or reconstruction of the unit commenced before June 12, 2006. The area source standards do not apply to existing stationary RICE. A stationary RICE is new at an area source of HAP emissions if construction or reconstruction (as defined in §63.2) of the unit commenced on or after June 12, 2006.

Applicability of 40 C.F.R. Part 63, Subpart ZZZZ, to the Grand Casino Mille Lacs facility:

None of the four generator sets at this facility are subject to the major source MACT standards at Subpart ZZZZ, since the PTE is below the major source threshold of 25 tpy for the aggregate of HAP emissions and below 10 tpy for any single HAP.

The four generator sets were constructed, reconstructed or modified before June 12, 2006, and, thus, are not subject to the new area source standards at 40 C.F.R. Part 63, Subpart ZZZZ.